UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
ENVIRONMENTAL CLEANUP

ACTION MEMORANDUM

SUBJECT: Action Memorandum for the Post Falls Mercury Site Emergency Response Action, Post Falls, Kootenai County, Idaho

FROM: Michael Boykin, On-Scene Coordinator
Emergency Response Unit
Emergency Management Program

THRU: Calvin J. Terada, Manager
Emergency Response Unit
Emergency Management Program

TO: Administrative Record
Post Falls Mercury Site

I. Purpose

The purpose of this memorandum is to document the decision to initiate the emergency response action described herein for the Post Falls Mercury Site located in Post Falls, Kootenai County, ID.

II. Site Information

A. Site Description

Site Name:	Post Falls Mercury Site
Superfund Site ID (SSID):	10PJ
NRC Case Number:	None
CERCLIS Number:	IDN001001447
Site Location:	606 E 5th Avenue, Post Falls, Idaho
County:	Kootenai
Lat/Long:	47.7116780, -116.9395410
Potentially Responsible Parties (PRPs):	See Confidential Enforcement Addendum
Access:	Unrestricted
NPL Status:	Not listed or proposed for listing
Removal Start Date:	November 25, 2015

B. Site Background

1. Removal Site Evaluation

The U. S. Environmental Protection Agency (EPA) Region 10 received notification from the Idaho State Communications Center (State Comms) the afternoon of November 23, 2015 regarding elevated levels of mercury vapor detected by the Idaho State Regional Response Team 1/Kootenai County Fire (RRT1) inside and outside of school buildings on a private school campus (Site) in Post Falls, Idaho. Concentrations of mercury vapor were reportedly detected up to 25,000 nanograms per cubic meter (ng/m^3) of air on various floors of several buildings on this campus. The Agency for Toxic Substances and Disease Registry (ATSDR) recommends that humans be isolated from spilled mercury when a vapor concentration exceeding 10,000 ng/m^3 is determined. ATSDR further recommends that 1,000 ng/m^3 mercury vapor in indoor air not be exceeded for normal occupancy of a residence or 1000 – 3000 ng/m^3 for normal occupancy of a school. [1]

Information from State Comms conference calls indicated that elemental mercury was spilled in the high school science classroom on November 20, 2015. The Site consists of 7 main buildings (Chapel, Rectory/Clergy residence, 2 main school buildings, a kindergarten, a locker room/ maintenance building, and teacher residence/library). The Site is located in a residential area and near an onramp of Interstate 90, which runs through the City of Post Falls.

From State Comms conference calls and discussions with school officials it was determined that a teacher and students identified the visible mercury beads in several classrooms on Monday, November 23, 2015, and notified the Principal. The Principal requested that students sweep the mercury beads into the trash and wipe down tables and chairs. Rags used for wiping down tables and chairs were returned to janitor's closets and brooms and trash cans were placed in the dumpster. The Principal researched mercury toxicity, determined that elemental mercury is a toxin, and ordered evacuation of the high school students to the Chapel basement and contacted Poison Control. Then the Principal canceled school for all students by early afternoon, November 23 and sent the kindergarten, elementary, middle and high school students home.

The RRT1 responded to the mercury release on November 23, 2015. School officials briefed the RRT1 about the spill sequence of events on November 20 and 23, 2015, and the cleanup actions that students and school officials had taken.

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[1] ATSDR, Action Levels for Elemental Mercury Spills, March 22, 2012.

The RRT1 utilized a Lumex Mercury Vapor Analyzer (Lumex) to assess 6 of the 7 buildings on the school campus on November 23-24, 2015. Several containers of elemental mercury were observed in a chemistry locker and numerous beads of free elemental mercury were observed on the floor in several rooms on the top floor of the South School Building.

Building assessment results were as follows: Rectory = 200 ng/m^3, safe to occupy; Chapel = 1300 - 1900 ng/m^3, closed to use; North School Building (2 floors) = 1300-6400 ng/m^3, closed to use; South School Building (1st floor) = 40 - 800 ng/m^3 with 2 hotspots ranging up to 25,000 ng/m^3, closed to use; South School Building (2nd floor) = 1000 - 50,000 ng/m^3, closed to use; Kindergarten Building = 50 ng/m^3, safe to occupy but need another survey; Locker Room/Maintenance Building = 300 - 5700 ng/m^3, closed to use; Teacher Residence/Library not assessed because students did not access it.

No assessments of students, school officials, or their families and respective homes were conducted by the RRT1.

Clergy and school staff collected information from the students and families about which students opened the chemistry cabinet and mercury containers, which students played with the mercury, who had taken some home, and who participated in the cleanup. In addition, clergy and school staff arranged for the high school students to return any containers of mercury and the clothes/shoes, backpacks, school supplies the students wore or brought to school on November 20 and 23, 2015.

As the students' clothing and personal effects were collected at the school collection site, the RRT1 conducted spot assessments and found that one student's clothing measured 46,000 ng/m^3. As school officials determined whether they could afford to procure a cleanup contractor with their insurance company, the RRT1, Idaho Department of Environmental Quality (DEQ) personnel, Panhandle Health District 1 (PHD1) personnel, and Idaho Bureau of Homeland Security (BHS) coordinated with school officials and conducted conference calls to determine the course of action. It was determined that the residences of the 16 students, who potentially contacted the mercury during the initial release and subsequent cleanup attempts, would need to be visited and assessed for possible mercury migration from the school to the homes via students' clothing and personal effects.

Once the school officials determined they needed assistance, the RRT1, DEQ, PHD1, and BHS requested EPA assistance for the assessment and clean-up of the school campus and any residences that may have been impacted. The EPA On-Scene Coordinator (OSC), Superfund Technical Assessment and Response Team (START) and Emergency Response and Remedial Services (ERRS) contractor personnel deployed the evening of

November 24, 2015 and attended a situational briefing at the school on November 25, 2015. The EPA, school officials, RRT1, DEQ, and PHD1 entered into Unified Command (UC). School officials granted verbal access to all of the school campus buildings and provided the UC with documents listing the students potentially exposed, their families/residence addresses, testimonials of the sequence of events, an estimated inventory of the elemental mercury that may have released and locations, and a list of all the families and students that attend the kindergarten, elementary, middle, and high schools at the Site.

Combined teams of EPA contractors and RRT1 personnel initiated air monitoring, using a Lumex at the sixteen homes of students potentially exposed at the school. A total of 15 homes were monitored (consent for access to 16th home not granted by parents) and elevated ambient air mercury readings (>3000 ng/m^3) were found in 7 of the 15 homes. Four of the seven homes were determined to also have mercury hotspots (>10,000 ng/m^3), associated with the students bedrooms and personal belongings. Elevated mercury levels were also found in dryers/washers, and household items such as vacuum cleaners and garbage cans. A level of >50,000 ng/m^3 was measured in one students bedroom carpet underneath a desk. Contaminated personal belongings that families wished to be decontaminated were bagged and transported to the Decontamination Area at the Site. The parents in homes with hot spots were advised to relocate their children to another room in the house and conduct heat and ventilation activities to mitigate, followed by re-monitoring by a UC Air Monitoring team at a later time.

The students' clothing and personal belongings that were brought to the Site, at the request of school officials, had been segregated into bags and labeled with the students' names. The Air Monitoring teams warmed the bags to room temperature and inserted the Lumex probe in to monitor. Numerous bags of clothing and personal belongings had elevated mercury levels (>10,000 ng/m^3) with one bag registering 29,000 ng/m^3. All of the contaminated bags of clothing/belongings were entered into the decontamination process for possible return to students/families.

Air Monitoring teams also conducted several rounds of air monitoring of Site buildings after heating/ventilation cycles in order to get a more detailed map of contamination to focus the clean-up activities, to confirm previous measurements, and to identify clean areas in order to store decontaminated items and cleared spaces where school/church activities could resume. While the Chapel was cleared for use, high ambient air levels were found on both floors of the North School Building (1500 – 6700 ng/m^3), on both floors of the South School Building (1200 – 28,000 ng/m^3 and hot spots ranging from 25,000 to >50,000 ng/m^3), and in the Locker Room/Maintenance Building (1,050 – 5,700 ng/m^3). Additionally, visible

mercury beads were observed on the floor and surfaces in the hallway and 2 classrooms of the second floor of the South School Building.

The UC identified an additional 6 students that may have transported contamination to their homes via contaminated clothing and personal belongings. Families in five of the six homes granted access and were assessed by the UC Air Monitoring Teams. None of the homes had elevated mercury in ambient air levels.

2. Physical location and Site characteristics

The Site is located at 606 E. 5th Avenue in Post Falls, Kootenai County, ID. The Site is a private school campus consisting of 7 buildings (Chapel, Rectory/Clergy residence, 2 main school buildings, a kindergarten, a locker room/ maintenance building, and teacher residence/library). The Site is located in a residential area and near an onramp of Interstate 90, which runs through the City of Post Falls.

3. Release or threatened release into the environment of a hazardous substance, pollutant or contaminant

Mercury is a hazardous substance as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

III. Threats to Public Health Welfare or the Environment

A. Nature of Actual or Threatened Release of Hazardous Substances, Pollutants or Contaminants

The Site and several of the students' homes pose a threat to public health and welfare because of the potential for exposure by inhalation to mercury vapors at elevated concentrations. ATSDR recommends that humans be isolated from spilled mercury when a concentration exceeding 10,000 ng/m^3 is determined. Elevated concentrations, exceeding 10,000 ng/m^3, were measured inside the South School Building primarily with hotspots found in several other locations in other school buildings at the Site.

Visible beads of elemental mercury were observed on the floor and on surfaces in several classrooms and in the hallway of the South School Building's second floor.

A release to the environment has occurred as evidenced by the presence of elevated mercury vapor levels found in the dumpster at the Site. Mercury contamination has migrated from the second floor of the South School

Building to the outside and then to other school buildings at the Site. Elevated mercury vapor levels have also been measured on students' clothing and in their personal belongings resulting in migration of contamination to the environment and students'/families' homes, household items, other family members and additional personal belongings. There is a threat of further release to the environment and other residences should the elemental mercury not be cleaned up appropriately.

B. Applicable factors (from 40 C.F.R. § 300.415) which were considered in determining the appropriateness of a removal action:

1. *Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants [300.415(b)(2)(i)]*

   Elevated concentrations of mercury vapors (above the ATSDR recommended level of 10,000 ng/m^3 to isolate humans from exposure) were measured inside and outside of the Site buildings. Visible beads of elemental mercury were observed on the floor and on surfaces in several classrooms and in the hallway of the South School Building's second floor. The Site, an unsecured, private school campus consisting of 7 buildings, is used for educational and religious purposes and thereby occupied for 8-plus hours on weekdays by hundreds of kindergarten to high school students and at other times in meetings and extra-curricular activities involving family members. Elevated levels of mercury vapors were found inside 4 of the 7 buildings on the school campus.

   Elevated levels of mercury vapors (>10,000 ng/m$^{3)}$ were found in multiple bags of students clothing and personal belongings returned to the Site by families when requested by school officials after discovery of the mercury release. One bag of clothing contained a vial of elemental mercury that had been removed from the science room of the high school floor when this incident first occurred. The elemental mercury container and high levels of vapor found in bags of students clothing and belongings indicate a release to the environment resulting in contamination migrating to secondary and tertiary locations.

   Elevated levels of mercury vapors and hotspots were found in 7 of the 21 students' homes (secondary and tertiary locations) tested where it is believed the students inadvertently tracked free mercury home on their school uniforms and in their personal belongings. Several household items were determined to be contaminated and were removed from some of the 7 homes with elevated mercury levels.

2. *The availability of other appropriate federal or state response mechanisms to respond to the release [300.415(b)(2)(vii)]*

   EPA's assistance was requested by school and local officials, and the State of Idaho because there were no known, other appropriate federal or state response mechanisms capable of providing the appropriate resources in the prompt manner needed to address the potential human health threats described herein.

IV. Selected Removal Action and Estimated Costs

A. Situation and Removal Activities to Date

1. Current situation

The emergency removal action described herein was initiated on November 25, 2015 and completed on December 2, 2015, when all mercury contamination indoors and outdoors at the Site, and inside of the seven homes, was cleaned up and transported off-site for treatment/disposal. Three ounces of elemental mercury and an estimated total of 10 cubic yards of mercury-contaminated personal belongings, household items, school equipment, and carpeting were removed from the Site and several homes for disposal at hazardous waste disposal facilities.

2. Removal activities to date

Removal activities that occurred November 25 – December 2, 2015 are as follows:

1. Secured, containerized, and removed all recovered mercury containers from students, homes, science classroom, and cabinets.
2. Several rounds of physical removal of free mercury on the floor and surfaces of classrooms and hallways in the South School Building and the various hotspots found in other buildings at the Site.
3. Removal of additional personal belongings (left behind in school buildings after evacuation), school athletic equipment, maintenance equipment, multiple door mats/rugs, and carpeting from a couple of classrooms.
4. After assessment and/or cleaning, the UC conducted multiple cycles of heating and ventilation of Site buildings with elevated mercury vapor levels.
5. Bagged and removed additional students' clothing/personal belongings and household items from student homes where elevated mercury vapor readings were found.
6. Several rounds of thermal decontamination of students clothing, textbooks/school supplies, personal belongings, household items removed from homes, school clothing, etc.

7. Disposal of any clothing, personal belongings, household items, school equipment, door mats, etc. that were not successfully decontaminated to be below a cleanup level of 10,000 ng/m^3.
8. Collection of multiple clearance air samples in the Chapel, South and North School Buildings, Locker Room/Maintenance Building, and Kindergarten to confirm cleanup levels were met after mitigation.
9. Photo-documentation and an inventory of clothing, personal belongings, school and household items that were not successfully decontaminated, and therefore disposed of, were provided to students, families and school officials.

There are no further planned or ongoing removal actions at the Site.

3. Enforcement

See attached Confidential Enforcement Addendum.

B. Removal Action

1. Action description

See Section IV.A.1.

2. Contribution to remedial performance

This removal action is expected to be the final removal action for the Site. However, if future actions are required, the emergency removal action described herein will not impede those actions based upon available information.

3. ARARs

Resource Conservation and Recovery Act (RCRA) [42 U.S.C. § 6901], Subtitle"C" - Hazardous Waste Management [40 C.F.R. Parts 260 to 279]. Federal hazardous waste regulations specify hazardous waste identification, management, and disposal requirements. For the management of RCRA hazardous wastes that are not Bevill-exempt, applicability of Subtitle C provisions depend on whether the waste are managed within an Area of Contamination (AOC). 55 FR 8760 (Mar. 8, 1990). Applicable or relevant and appropriate requirements of RCRA Subtitle C (or the state equivalent) may be satisfied by off-site disposal, consistent with the Off-Site Rule, 40 C.F.R. § 300.440. RCRA Subtitle C also provides treatment standards for debris contaminated with hazardous waste ("hazardous debris"), 40 C.F.R. § 268.45, although the lead agency may determine that such debris is no longer hazardous, consistent with 40 C.F.R. § 261.3(f)(2), or equivalent state regulations

Mercury Export Ban Act (MEBA) of 2008. The Mercury Export Ban Act of 2008 (MEBA) amends the Toxic Substances Control Act (TSCA) to prohibit the export of elemental mercury from the United States effective 1 January 2013. MEBA also prohibits the sale, distribution, or transfer of elemental mercury under the control or jurisdiction of federal agencies to any other federal, state, or local government agency or to any private individual or entity, except for the transfer of elemental mercury to facilitate storage under MEBA.

4. Project Schedule

The emergency removal action was started on November 25, 2015, and on-Site work was completed on December 2, 2015. Waste generated from the Site has been transported to and treated at/disposed of into approved RCRA Subtitle C hazardous waste disposal facilities.

C. Estimated Costs*

Contractor costs (ERRS/START staff, travel, equipment)	**$122,000**
Other Extramural Costs (Strike Team, other Fed Agencies)	**$ 0**
Contingency costs (10% of subtotal)	**$ 12,200**
Total Removal Project Ceiling	**$134,200**

*EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA. "

V. Expected Change in the Situation Should Action Be Delayed or Not Taken

A delay in action or no action at this Site would have increased the actual or potential threats to the public health and the environment.

VI. Outstanding Policy Issues

None

VII. Approvals

This decision document represents the selected removal action for this Site, developed in accordance with CERCLA, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for the Site.

Conditions at the site meet the NCP Section 300.415(b) criteria for a removal action and through this document, I approved the removal action described herein. The total project ceiling is $134,000, of which $47,000 will be funded from the Regional removal allowance.

Michael Boykin
Federal On-Scene Coordinator

3 Mar 2016
Date